



UNITED STATES PATENT AND TRADEMARK OFFICE

10H
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,408	09/23/2003	Donald Gray	P00615-US1	2040
3017	7590	04/21/2004	EXAMINER	
BARLOW, JOSEPHS & HOLMES, LTD. 101 DYER STREET 5TH FLOOR PROVIDENCE, RI 02903			EL ARINI, ZEINAB	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/668,408	Applicant(s) GRAY, DONALD	
	Examiner Zeinab E. EL-Arini	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 7, "the pressure", and "the air" are without proper antecedent basis.

In claim 6, line 3, "the same chemicals" lacks antecedent basis.

In claim 8, lines 3, 5, claim 9, line 3, and claim 10, line 2, "fluid" lacks antecedent basis, because it is not clear if the fluid is the first fluid or the second fluid. Clarification is requested.

In claims 11, 12, line 1, "circulating air-vapor mixture" lacks antecedent basis. At line 2, "the saturation point" lacks antecedent basis.

In claim 12, line 2, "the solvent vapor content" lacks antecedent basis.

Specification

3. The abstract of the disclosure is objected to because it is not directed to a method of treating an object as claimed herein. Correction is required. See MPEP § 608.01(b).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gray et al. (6,418,942) disclose solvent and aqueous decompression processing system. Gray et al. (6,004,403) disclose solvent cleaning system. Skrovan et al. (5,849,091 and 6,006,765) disclose megasonic cleaning methods and apparatus. Sasaki et al. (5,810,037) disclose ultrasonic treatment apparatus. Cohen et al. disclose control of gas content in process liquids for improved megasonic cleaning of semiconductor wafers and microelectronics substrates. Gray et al. (5,702,535) disclose dry cleaning and degreasing system. Stanford, Jr. et al. (5,456,759) disclose method using megasonic energy in liquefied gases. Chao et al. (5,370,740) disclose chemical decomposition by sonication in liquid carbon dioxide. Neubauer et al. (5,268,036) disclose method and

apparatus for cleaning metallic workpieces. Gray et al. (5,240,507) disclose cleaning method and system.

Allowable Subject Matter

5. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

6. Claims 2-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record failed to teach a method of treating an object in a closed circuit solvent processing system comprising the steps of: placing an object to be processed in said chamber; sealing said chamber; reducing pressure within said chamber to evacuate air from said chamber to create a vacuum condition; introducing a first fluid to said evacuated chamber from said first fluid supply tank to process said object; removing said first fluid from said chamber to a first fluid holding tank to

restore said vacuum condition; drying said object and said chamber; introducing a second fluid to said evacuated chamber from a second fluid supply tank to process the object; removing said second fluid from said the chamber to a second fluid holding tank; drying said object and said chamber; introducing a non-condensable gas to said chamber to return the pressure within said chamber to atmospheric pressure; and opening said chamber to remove said object as claimed .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeinab E. EL-Arini whose telephone number is (571) 272-1301. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zeinab E. EL-Arini
Zeinab E. EL-Arini
Primary Examiner
Art Unit 1746

ZEE

04/15/04